ENVIRONMENT AND NATURAL RESOURCES

1. Department Overview

Mission

Environment and Natural Resources (ENR) works with all people and interested organizations to protect our environment by making sure our resources are used wisely and that people understand their part in keeping the environment healthy.

Goals

1. The Northwest Territories' (NWT) air, land, water, wildlife, and forests are protected.
2. The NWT's natural resources are used and developed wisely in accordance with the Sustainable Development Policy.
3. Knowledge is gained through cooperating and sharing information with other organizations and people interested in the environment.
4. The NWT's environment and natural resources are managed with the understanding that forests, wildlife, air, land and water are connected.

Operating Environment

Issues having direct and substantial impacts on the Department of Environment and Natural Resources' programs and services:

Climate Change

Climate change is an overarching environmental reality that defines environmental, economic and political challenges facing governments, communities and residents. Climate change impacts forest growth and regeneration, wildland fire cycles, wildlife habitat, wildlife migration patterns, and water tables. ENR must modify its resource management practices to adapt to the impacts of climate change. ENR must develop strategies to respond to observed or predicted effects such as permafrost degradation, advancement of alien species, and modified wildland fire cycles.

National Recovery Strategies

Recovery strategies for species at risk in the NWT require the management of wildlife populations and the landscape upon which they rely.

The legal requirement to protect critical habitat for nationally endangered and threatened species has implications for public infrastructure, economic development, land claim and self-government negotiations and wildland fire management in the NWT. Implementation of the national Boreal Caribou Recovery Strategy will also have socio-economic impacts on the NWT as it may limit resource development within portions of boreal caribou range in the NWT.

In 2013-14, ENR is obligated to develop and implement Action Plans for National Recovery Strategies for boreal caribou, wood bison, Peary caribou and two species of bats (northern myotis and the little brown myotis).

Barren-ground Caribou Management

Management actions taken during the past four years have helped many barren-ground caribou herds stabilize or recover from previous declines. However, herd numbers remain low and monitoring and management actions are still required to promote recovery and long-term sustainability. Successful implementation of the 2011-2015 NWT Barren-ground Caribou Management Strategy will require working with communities, Aboriginal governments and other partners.

Oil and Gas Development

Expansion of oil and gas activity, most recently in the Sahtu Region, will be a major driver of landscape change in the NWT. ENR and other regulatory agencies will have increased information requirements to help maintain sustainable economic opportunities for the forest resource and to mitigate potential effects on wildlife populations. ENR, in collaboration with territorial, federal, aboriginal and industry partners will need to develop partnerships to obtain this information and to develop best practices, guidelines and regulations for oil and gas exploration and development activities.

Hydraulic Fracturing

Development of unconventional oil and gas reserves in the NWT may be viable through the use of techniques such as horizontal drilling and hydraulic fracturing. Applications or permits to use such techniques in the Sahtu and Dehcho regions are expected to be filed within the next year. Residents want the NWT regulatory system to consider concerns about groundwater and surface water, water use, additives used and land disturbances when reviewing these permits. ENR will need to continue to work with other GNWT Departments, regulatory agencies and others to ensure strategies and actions are in place to address environmental and human health concerns related to the use of unconventional hydraulic fracturing techniques in the NWT, while promoting economic opportunities.

Infrastructure development - all season highways

All season highway construction in the NWT must go through the regulatory approval process, including environmental assessment (EA) reviews. The EA for the Inuvik to Tuktoyaktuk all season road will be completed in early 2013. ENR continues long-term wildlife effects monitoring and provides wildlife management advice to the Department of Transportation to help minimize impacts to key wildlife species. Planning, design, EA and operational advice will also be required for the anticipated Mackenzie Valley Highway.

Wildland Fire Management

Reconciling the role of fire in maintaining the ecosystem with the need to protect people, property and forest values presents a complex challenge. This is further complicated by climate change, resulting in a high level of seasonal variability that is likely to increase the number and severity of wildland fires during the next century. Wildland Fire Program Review recommendations will be implemented to ensure the program is addressing the needs of communities and residents, particularly in determining the values at risk and value placed on wildlife habitat.

Land-based and water skimmer air tankers are used to respond to wildland fires in the NWT. As these aircraft age, maintenance requirements increase. As well aviation fuel must be placed in strategic locations. An Aviation Fleet Review that builds on previous studies on the serviceability of the current CL-215 fleet is underway. This work will inform future wildland fire management options.

Sustainable Forest Economies

A viable forest industry requires sustained access to timber, biomass, and non-timber forest resources. ENR works with Aboriginal governments and communities to support sustainable forest economies through forest resource inventories; community capacity development through training and technical support; forest management planning; and, other specialized services. Forest Management Agreements offer opportunities to manage community or traditional forest resources in a locally beneficial way. Development of a woody biomass industry supports green energy objectives. These matters can also be addressed in Forest Management Agreements.

A partnership with CanNor (Canadian Northern Economic Development Agency) is providing additional funding in the order of $1.0 million to develop a work plan for NWT forest industry development.

Protecting Territorial Waters

Ensuring NWT waters remain clean, abundant and productive for all time is a priority for the people of the NWT. Communities are concerned about water quality, water quantity and traditional harvests of wildlife and fish. As the Mackenzie River Basin extends over most of the continental portion of the NWT, integrated watershed management is of primary concern. NWT interests extend into upstream development including oil sands and hydro development. Implementation of the NWT Water Stewardship Strategy and Action Plan is crucial to partnership efforts to steward NWT water resources. ENR's contributions focus on community source-water protection plans, community-based water monitoring programs and transboundary water management agreements.

Devolution, including Identification of Waste Sites

A key factor affecting resource and environmental management in the NWT is the devolution of responsibility for land, water and non-renewable resources from Canada to the GNWT. Contaminated sites, most on crown lands, can be found throughout the NWT. The GNWT needs a greater understanding of the status of federal contaminated sites and the risk they may pose to the environment prior to a final devolution agreement. ENR needs to assess and provide recommendations whether operating sites identified by Canada for transfer to the GNWT meet certain conditions established in the Devolution AIP including reviewing the amount of posting security.

ENR continues to support negotiations and implementation towards the devolution final agreement in matters related to human resources and organizational design, regulatory issues relating to land and water, land administration and how this relates to land management and protection, waste site delineation and information systems.

Giant Mine

Remediation of the Giant Mine site poses the greatest waste site challenge in the NWT. ENR is a co-proponent in the Giant Mine Remediation Project and has booked a $23 million liability for the Project. Issues arising during the Project's Environmental Assessment related to health, municipal plans, highways or wildlife will have a direct and substantial impact on ENR's programs and services.

Land Management, Conservation and Protection

The resource rich NWT is posed for considerable oil, gas and mineral development that must be managed in a way that sustains the environment. An integrated system of land and water management in the NWT will be critical to attaining both economic and environmental goals. Environmental, social, cultural and economic interests will need to be addressed through a NWT Land Use and Sustainability Framework, regional land use and protected areas planning initiatives, environmental impact assessment and cumulative effects management.

The NWT Protected Areas Strategy and Establishment Action Plan (2010-2015) are key to conserving a network of healthy landscapes. Ongoing ENR support for the Secretariat function and leadership in development of an Ecological Representation Network Plan will help ensure NWT biodiversity and ecosystems are conserved.

KEY ACTIVITY 1 - CORPORATE MANAGEMENT

Description

The Corporate Management activity provides overall management, strategic planning, communication, and leadership to the Department's divisions and regions. Divisions and Units within this activity enable the Department to respond effectively to the environmental and resource management priorities of NWT residents.

The Corporate Management activity is carried out through Directorate, the Policy and Strategic Planning Division, Shared Services (Finance and Administration and Informatics Divisions), and the Field Support Unit.

Directorate provides overall leadership, management, and strategic planning for the Department.

Policy and Strategic Planning provides policy, legislative, strategic planning, coordination, and communications and media relations expertise to lead associated initiatives or provide support to the Department to make informed decisions on environmental and resource management issues.

The **Field Support Unit** provides regional and divisional support on activities related to traditional knowledge, Aboriginal relations, licensing, compliance, public education, and employee training.

Shared Services consists of the **Finance and Administration** and **Informatics** divisions, providing services to the Departments of Environment and Natural Resources and Industry, Tourism and Investment.

Finance and Administration provides financial management and administrative services to the departments. These services include providing advice to senior managers on financial management, financial control, contracts and contributions.

Informatics provides broad Information Management Services including Records and Library Services, Geomatics and Geographic Information Systems and analysis, Information Systems development, implementation and operations, and strategic advice and guidance on the use of information and technology in support of programs and services.

This activity also includes **Corporate Costs**, which capture Department-wide specific costs such as lease payments, vehicle and building maintenance and fuel.

KEY ACTIVITY 2 - LAND AND WATER

Description

Land and water programs are those that stem from federal environmental legislation that have GNWT obligations, such as the *Mackenzie Valley Resource Management Act*, as well as related partnership initiatives such as water stewardship and cumulative effects. Key program areas include regional land use planning, protected areas, environmental impact assessment, and water stewardship. The Land and Water Division houses the NWT Protected Areas Strategy (PAS) Secretariat, which is shared with Aboriginal Affairs and Northern Development Canada. Regional land use plans integrate environmental, social, cultural and economic interests, ensuring NWT values on the landscape are protected or conserved by defining where development can occur and under what general conditions. Consistent with regional land use planning, the NWT PAS protects special natural and cultural areas and core representative areas within each eco-region.

Environmental Assessment and Monitoring (EAM) functions include overseeing ENR's input into preliminary screenings of regulatory applications and renewal of permits and licenses, as well as coordinating the GNWT's participation in environmental assessments and environmental impact reviews, and improvements such as guidelines or proposed amendments to the NWT land and water regulatory system. EAM coordinates input from Regional Environmental Assessment Coordinators who provide comments from a local perspective on regulatory applications. EAM is also involved with follow-up monitoring and overseeing GNWT requirements set out in Environmental Agreements.

Water Stewardship functions involve the ongoing implementation of the NWT Water Stewardship Strategy with other water management partners. GNWT focus areas include transboundary water issues, community public water supply source protection, community-based aquatic monitoring and aquatic ecosystem indicators, as well as federal/provincial/territorial initiatives related to water resources stewardship.

Performance Measures

Measure 1 – Number of inter-jurisdictional meetings attended on water initiatives

Protecting territorial waters is a strong priority for the people of the Northwest Territories. This means that water management decisions must be made in a way that considers what happens throughout basins or watersheds. Improvements are made as multiple jurisdictions discuss a more integrated approach to knowledge and decision-making from regional to national scales. One way to measure this interaction and collective dialogue is tracking inter-jurisdictional meetings on water initiatives. Regionally, work has focused on increasing understandings and process related to the Mackenzie River Basin's transboundary water management since much of the NWT's water resources are influenced by decisions made on upstream activity in British Columbia, Alberta and the Yukon. Rapid and extensive development of oil sands in Alberta's Lower Athabasca region and the anticipated Site C hydroelectric development downstream from the Bennett Dam in British Columbia have heightened community concerns about water quality,

water quantity and traditional harvests of wildlife and fish. Nationally, ENR contributes to and learns from federal-provincial-territorial dialogue sharing experiences and agreeing upon approaches to decision making related to water stewardship. The two primary venues for this dialogue are the Council of Federation Water Stewardship Council and the Canadian Council of Ministers of the Environment water committees.

Year	Number of meetings
2010/2011	6
2011/2012	16

In 2011/12, a total of 16 interagency face-to-face meetings took place to forward collective interests; each effort was supported by considerable teleconferences and working group activity. Interagency meetings included:

- Council of the Federation - Water Charter (2)
- Peace-Athabasca Delta Environmental Monitoring Program (3)
- Canadian Council of Ministers of the Environment
  - Canada Wide Strategy for the Management of Municipal Wastewater Effluent (3)
  - Water Management Council (2)
- Transboundary Waters
  - Mackenzie River Basin Board (1)
  - Bilateral Agreement Discussions with Alberta (4)
  - Multilateral Discussions with Alberta, British Columbia, and Saskatchewan (1)

Measure 2 – Number of engagement activities undertaken within regions to promote water stewardship

Water stewardship engagement activities are an essential means to ensure sustainable water resources management in the NWT.

Year	Number of Engagement Activities
2010/2011	25
2011/2012	35

In 2011/12, 35 activities were undertaken within regions to promote water stewardship. These activities included engagement on the Water Strategy as a whole, preparation for transboundary water management agreements, community-based monitoring workshops and monitoring events, source water protection workshops, and the Wilfrid Laurier Partnership meetings.

- Water Strategy engagement
  - Assemblies (3)
  - Other meetings within and outside NWT (20)
- Transboundary preparation
  - Traditional and local knowledge workshops (3)
- Community-based monitoring

  - Slave River and Delta Partnership (state of the knowledge workshop, vulnerability assessment workshop, etc.) (3)
  - Community fish health monitoring (3)
- Source water protection (2)
- Wilfrid Laurier partnership (1)

Measure 3 – Number of land use plans successfully negotiated and in place

Regional land use plans specify which land use activities are allowed in a given area, and provide guidance on how development should occur. A land use plan becomes legally binding once approved by all three signing parties. Regional land use plans are a key component of the integrated system of land and water under the MVRMA and are integral to land claim implementation in the Sahtu and Gwich'in regions and to land claim negotiation in the Dehcho region.

To date, the Gwich'in Land Use Plan (2003) is the only approved regional land use plan. It is currently undergoing a five-year review, which is expected to be completed in 2012. The Sahtu Land Use Plan is currently being developed and is also expected to be completed in 2012. The Dehcho Land Use Planning Committee has been developing an interim Dehcho Land Use Plan.

Measure 4 – Number of NWT PAS sites advanced through PAS stepped process

Protected areas are a key component for responsible land and resource stewardship by conserving biodiversity, ecological process and special natural and cultural values. ENR recognizes the importance of protected areas and works together with other partners, including communities, the federal government, environmental non-governmental organizations and industry, in the NWT PAS to establish protected areas across the NWT.

The PAS can be roughly divided into three main "phases":

1. Identify and sponsor protected areas (PAS Steps 1-3)
2. Assess candidate areas and establish protected areas (PAS Steps 4-7)
3. Monitor and manage established areas (PAS Step 8)

Number of NWT PAS sites advance through PAS process				
Steps in the PAS process	**2008-2009**	**2009 -2010**	**2010-2011**	**2011-2012**
Number of sites				
Steps 1-2	13	10	9	0
Step 3	4	2	1	2
Step 4	4	1	3	0
Steps 5-8	1	5	5	7
Established	0	1	1	1
Total	**22**	**19**	**19**	**10**

Measure 5 - Amount and number of ecoregions with established protected areas

Measuring the amount of established protection in each ecoregion is a simple way to indicate which ecoregions are likely to have good ecological representation and which ecoregions have low ecological representation.

Ecological representation is a conservation science method used in protected areas planning to help protect biodiversity and is achieved by having core protected areas with representative habitats that can maintain ecological integrity. The underlying assumption is that if a sample of all habitats is protected, the majority of all species should be captured without having to target species individually.

In total there are 42 ecoregions in the NWT that have varying degrees of representation by established protected areas.

The proportion of each ecoregion protected is classified into 5 broad categories (> 75% of ecoregion protected, 50 to 75%, 25 to 50%, 5 to 25% and < 5% protected) and the number of ecoregions in each category is counted.

Number of ecoregions protected				
Percent of eco-region protected	**2008-2009**	**2009-2010**	**2010-2011**	**2011-2012**
> 75 %	3	4	4	4
50 to 75 %	1	2	2	2
20 to 50 %	5	5	5	5
5 to 25 %	5	8	8	8
< 5 %	28	23	23	23

Measure 6 - Number of regulatory application reviews coordinated within ENR

EAM coordinated the submission of technical comments and recommendations from ENR divisional and regional staff to resource management boards and agencies on 251 applications. These applications were for water licenses and land use permits throughout the territory as well as leases on Commissioner's Lands and Crown Land.

Regulatory Applications						
	2007-08	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**5 year Average**
Water Licenses	29	3	39	32	36	28
Land Use Permits (Mackenzie Valley)	93	56	66	64	65	69
Leases	40	132	51	65	73	72
Other Screenings (Inuvialuit Region)	31	39	55	62	77	53
TOTAL	**193**	**230**	**211**	**223**	**251**	**222**

Measure 7 – Number of environmental impact assessments coordinated

Coordination is required for each phase of an environmental impact assessment and includes many internal GNWT meetings, meetings with proponents, training and communication, information requests development and collation (of GNWT departmental materials), technical report development, preparation for technical sessions and public hearings as well as representing and coordinating the GNWT during the Report of Environmental Assessment decision phase.

Environmental Impact Assessments					
Year	**New EAs**	**Completed EAs**	**Withdrawn EAs**	**Outstanding EAs**	**Activity (New and Completed)**
2007-08	6	2	1	10	8
2008-09	6	2	-	14	8
2009-10	1	3	5	7	4
2010-11	2	1	-	8	3
2011-12	-	2	-	6	2
2012-13*	Currently 4 Active EAs & 1 EIR & 2 completed EAs Waiting Minister's Decision				

*There is also 1 EA occurring in the ISR, and 1 in BC that ENR is involved in.

* Note: the number of EAs does not reflect the complexity or size of a project under review. Each EA has unique situations and must be considered on a case-by-case basis to determine the work load associated with the review.

KEY ACTIVITY 3 - ENVIRONMENT

Description

The Environment Division works to maintain a high quality environment for the benefit of current and future generations.

The Environmental Protection section works to prevent and reduce the impact of human activities on the natural environment by providing information, advice, and programs in the areas of contaminated sites, hazardous substances, hazardous waste management, and air quality. The priorities of Environmental Protection are mandated through two key pieces of legislation: the *Environmental Protection Act*, and the *Pesticide Act*.

The Waste Reduction and Management section works to prevent and reduce the impact of human activities on the natural environment by developing, implementing, and administering programs and policies in solid waste management, waste prevention, reduction, reuse and recycling. The priorities of this section are mandated under the *Environmental Protection Act* and the *Waste Reduction and Recovery Act*.

The Climate Change Programs (CCP) section coordinates the GNWT's response to climate change by developing strategies and activities to control and inventory greenhouse gas emissions, identifying climate change impacts, increasing awareness of climate change, and adapting to a changing climate. Working with the Arctic Energy Alliance, the CCP section encourages energy conservation and the use of energy efficient technologies and alternative energy sources.

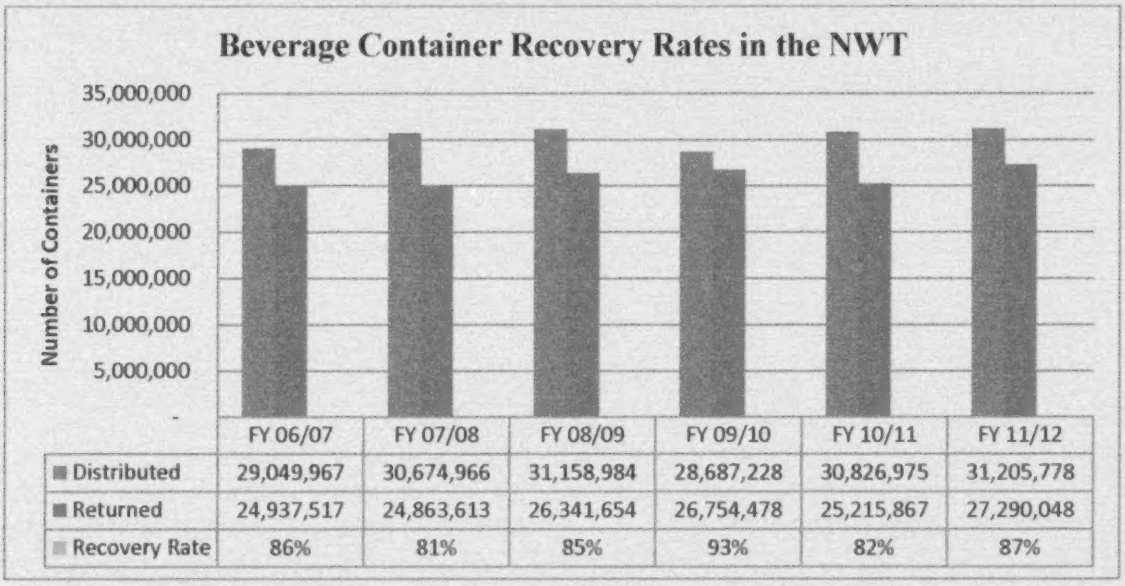
The Environment Division has the lead on the implementation of the GNWT Science Agenda. The Senior Science Advisor provides expertise, leadership, and vision across the GNWT as a champion for excellence in scholarship and research. The Advisor is responsible for promoting collaborative research priorities and themes relevant to the GNWT and northerners, engaging research partners in science policy development, encouraging investment in research and promoting major research initiatives.

Performance Measures

Measure 1 – Annual Recovery Rate of Beverage Containers

The Beverage Container Program (BCP) was implemented on November 1, 2005. To date, approximately 162 million beverage containers have been returned in the NWT. Each year, the BCP tracks the number of containers distributed, and the number of containers returned to depots in order to calculate the annual recovery rate of beverage containers. ENR uses the recovery rate to track the overall performance and success of the BCP.

Preliminary numbers indicate that from April 1, 2011, to March 31, 2012, approximately 31.2 million containers were distributed and 27.2 million containers were returned to NWT depots. The rate of recovery for the fiscal year 2011-12 was approximately 87 percent.

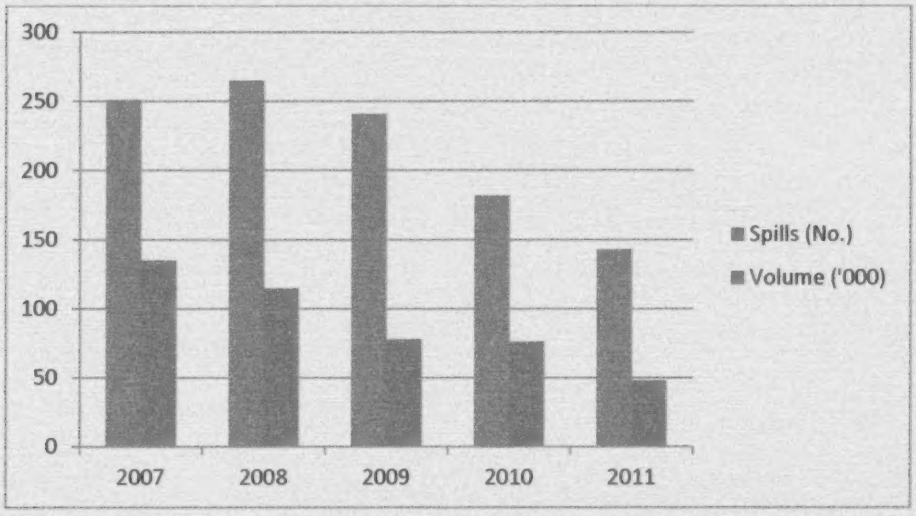


	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12
Distributed	29,049,967	30,674,966	31,158,984	28,687,228	30,826,975	31,205,778
Returned	24,937,517	24,863,613	26,341,654	26,754,478	25,215,867	27,290,048
Recovery Rate	86%	81%	85%	93%	82%	87%

Measure 2 – Number and volume of hydrocarbons spills recorded and tracked through the NWT Spill Line

Petroleum liquids represented the majority of spills in the NWT. There has been a general decrease in the number and volume of spills since 2000. ENR reported in its annual Spills in the Northwest Territories 2011 report that the mining and oil and gas sectors experienced a slight increase in spills. This may be due to increased resource exploration. There is a general decrease in the number of spills reported from residential-sized steel oil tanks (1,135 litres). This may be partially a result of the distribution and use of ENR's Homeowner's Guide to Oil Tanks. The Guide provides homeowners with some simple, practical steps that can minimize the chances of an oil spill.

Number and Volume of Hydrocarbon Spills in the NWT 2007-11



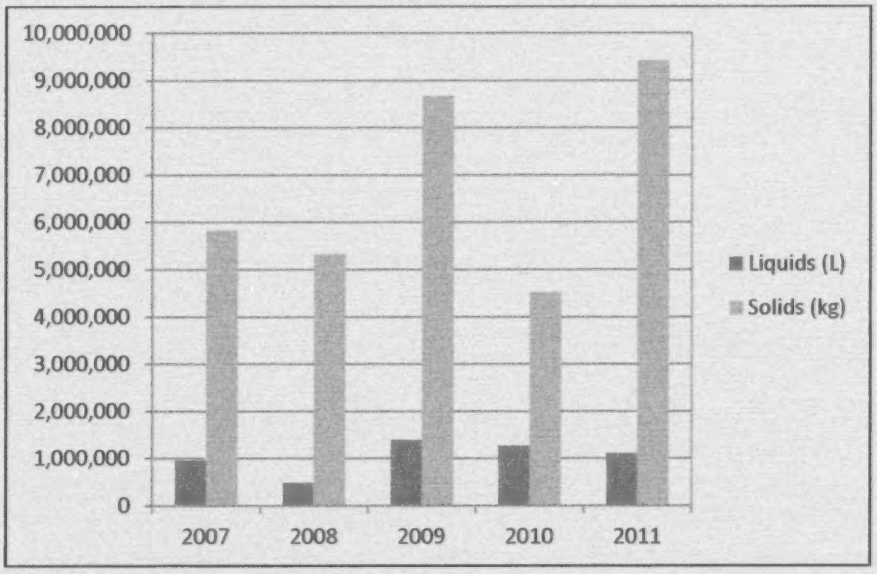
Measure 3 –Hazardous wastes consignments in the NWT

The amount of hazardous waste generated, and information about where it is disposed of, is tracked to ensure that hazardous waste has been disposed of at appropriately registered receiving facilities. This is done in accordance with the Guideline for the General Management of Hazardous Waste in the NWT.

The information described in the tables below accounts for the amount of hazardous waste being consigned from registered generators of hazardous waste to registered receivers of hazardous waste. The receivers may be within the NWT, as is the case for facilities that remediate hydrocarbon contaminated soils and waters, or outside the NWT. A consignment is a single waste stream listed on a movement document (hazardous waste manifest). Up to four waste streams can be listed on a single movement document. The weights and volumes are estimates based on amounts reported in kilograms, litres and cubic meters. The numbers are frequently estimated, and should only be used to track general trends in hazardous waste amounts.

Hazardous Waste Consignments in the NWT			
Year	Liquids (L)	Solids (kg)	Consignments recorded by ENR
2007	956,791	5,821,448	565
2008	478,110	5,324,799	778
2009	1,387,096	8,666,299	881
2010	1,263,211	4,510,053	1120
2011	1,100,897	9,421,665	1392

Hazardous Waste Consignments in the NWT



Contaminated Soil

A large percentage of hazardous solids generated are hydrocarbon contaminated soils from spills related to petroleum products. In 2011, there were 8,979,804 kg of hydrocarbon contaminated soil generated that were consigned to registered receiving facilities. This amount does not include two exceptionally large shipments of contaminated soil from Shell's Inupkat sump remediation in the Beaufort Delta (est. 6,400,000 kg), as well as Enbridge's remediation of the Willow Lake River pipeline spill (est.900,000 kg).

Measure 4 - Efficiency of Air Quality Monitoring (AQM) Network

ENR has been working with Informatics over the last year to upgrade the data collection and data management systems used across the AQM network. This has successfully brought the NWT up to the highest equipment standard in National Air Pollution Surveillance (NAPS) network. This allows ENR to remotely access diagnostic information from the stations and perform select functions, which previously required a person on the ground to conduct. ENR continues to seek methods to overcome the limitations of remote operations, optimize the network operation and reduce instrument down time, thereby creating a fuller data set for government, researchers, industry, and the public alike. The data capture for the GNWT's air quality monitoring stations, including the NAPS and the Canadian Air and Precipitation Monitoring Network (CAPMoN) station at Snare Rapids, are presented in the table below.

Region	Station	Partner	Monitoring Type	Number of Instruments	2011 Average Overall Operating Efficiency
North Slave	Yellowknife	EC - NAPS	Ambient Air	6	96.3 %
	Snare Rapids	EC – CAPMoN, NTPC	Deposition	2	79 %
Inuvik	Inuvik	EC - NAPS	Ambient Air	6	89.6 %
Deh Cho	Fort Liard	-	Ambient Air	6	69.2 %
Sahtu	Norman Wells	-	Ambient Air	6	95.0 %

Measure 5 – Level of participation in energy conservation and alternative technology programs

Contribution funds are available to residents, communities, businesses and Aboriginal governments to facilitate projects that reduce dependence on fossil fuels in the NWT. As a general rule, ENR strives to provide a level of funding to proponents that result in a simple payback through energy savings within five years. The following table shows the number of projects funded over the last five years and the results in terms of annual savings and greenhouse gas emission reductions.

	2007-08	2008-09	2009-10	2010-11	2011-12
Alternative Energy Technology Program					
Projects funded	14	14	9	16	31
Funding provided	$121,436	$95,161	$73,661	$324,000	$445,925
Number of installed kilowatts	6.5	13.4	6.12	37.93	68.95
Estimated annual savings	$23,849	$58,531	$11,107	$112,352	$208,572
Energy Conservation Program					
Projects funded	3	9	8	8	8
Funding provided	$69,800	$124,662	$110,279	$138,000	$112,000
Estimated annual CO_2 reduction (tonnes)	89	130	250	73	130
Estimated annual savings	$31,760	$66,739	$52,925	$35,727	$61,150
Energy Efficiency Incentive Program					
Rebates provided	547	764	813	882	1,253
Funding provided*	$165,550	$262,150	$264,401	$345,380	$340,000
Estimated annual CO_2 reduction (tonnes)	938	1,869	1,840	2,080	2,947
Estimated annual savings	$228,223	$551,191	$676,681	$771,041	$1,095,367

*EEIP - total funding provided does not include the total program costs. The total program costs include workshops, education and administration by the Arctic Energy Alliance.

KEY ACTIVITY 4 - FOREST MANAGEMENT

Description

Forest Management initiatives provide for the stewardship of NWT forests through sustainable management of forest resources and forest fire management.

Sustainable forest management is ensured through the collection of information on the state of forest resources; forest management planning; monitoring of forest health and changes to forest landscapes; regulation of forest practices and planning; and, compliance and reporting.

Sustainable forest management includes collaboration with Wildlife and Land and Water and Environment Divisions on issues of climate change, biomass energy and Greenhouse Gas Strategy support, biodiversity and critical wildlife management concerns and decision processes of management planning at the landscape level.

Development of sustainable community forest economies is supported with appropriate consideration of the sustainable management of forest resources, community interests and aspirations, and recognizing the need for forest-based development that not only builds economic stability within communities, but is also culturally acceptable. Access to forest resources in the NWT recognizes Aboriginal rights and interests and is influenced by Interim Measures Agreements, Comprehensive Land Claim Agreements.

Forest fire management is achieved through prevention, preparedness and forest fire response. Using the best science, technology and effective use of available fire response resources, forest fire management provides for the protection of people, property and other values at risk from forest fire. Working in collaboration with the Wildlife Division, forest management assesses forest landscapes, natural disturbance patterns and current wildfire activity to develop and implement wildland fire management plans which recognize the ecological role of fire on the landscape while endeavouring to limit catastrophic levels of impacts on natural areas. Developing an increased capacity of individuals, communities, industry and others to take responsibility for reducing fire hazards and forest fires is also a priority.

Performance Measures

Measure 1 – Area of the NWT having data on the current state of the forest resource

Forest Resource Inventories are essential for a variety of sustainable management initiatives. Forest inventory information provides essential information on the state of our forest resources, including quantity, types, age, growth and succession. The information is used for identifying potential biomass energy supplies, assessing the impacts of oil and gas activities, landscape planning, climate change modeling, identifying wildlife habitat and special ecological places, managing wildland fire risk, and modeling the value of forests as carbon sinks.

Inventories support sustainable forest resource planning for community interests such as woody biomass supply, community forest industries, and community cultural, social and ecological

objectives. Forest inventory information aids communities and governments in monitoring cumulative effects, minimizing environmental impacts and maintaining healthy ecosystems.

In 2011-2012, 1.8 million hectares in the South Slave Region was assessed to created sustainable estimates for biomass harvest.

A 750,000 hectare area from Chan Lake through Whati had aerial photography, digital elevation modelling and orthophotos (an aerial photograph geometrically corrected) construction completed in 2011-2012. Detailed vegetation inventory interpretation is the next step in creating a new vegetation inventory for this area.

Measure 2 – Number of operationalized community wildland fire risk mitigation plans completed

Proactively identifying and mitigating wildland fire risk in NWT communities improves public safety and helps protect infrastructure, valuable natural resources, and may reduce economic impact from wildland fire. Management of wildland fire risk in community areas is a shared responsibility of property owners, community governments, the Department of Municipal and Community Affairs (MACA) and ENR.

Community wildland fire protection plans (CWFPPs), reflecting FireSmart principles, identify and recommend mitigation measures addressing community wildland fire risk. The plans provide guidance to community governments and MACA on mitigation opportunities in those communities. In 2011-2012, ENR completed CWFPPs for all NWT communities at risk below the treeline.

The next steps in the community hazard and risk mitigation process is the coordination of work plans addressing community, MACA and ENR roles and responsibilities in achieving community risk management objectives.

Measure 3 – Sustaining fire dependent ecosystems while maintaining a social, economic and environment balance of fires on the landscape

Wildland fire is an important agent of change on the boreal landscape. Determining how many natural-caused wildland fires (lightning, or other natural causes e.g. coal seams) should be actioned versus how many should be monitored all relate to a number of dynamic factors, such as time of year, proximity to values-at-risk, available resources, and other risk variables. All person-caused wildfires are actioned because of their proximity to values-at-risk. A decision to monitor a natural-caused wildfire is just as important as a decision to action one. In the past decade, ENR has reduced the average number of wildland fires actioned from 70 percent to approximately 50 percent.

Ongoing wildland fires such as those located within the Caribou Range continue to be monitored for potential effects on values-at-risk. Fire action is pursued where appropriate in a manner consistent with the Forest Fire Management Policy. Landscape level wildland fire decisions

reflect community land and resource management objectives and interests (where information is available), and the ecological role of fire on the landscape while recognizing that catastrophic levels of fire may not be ecologically appropriate.

207 wildland fires were reported in the 2011 fire season. 80 fires received action and 127 fires were monitored for possible effects on values-at-risk. 171fires were lightning caused, 25 fires were person-caused, one fire originated from a coal seam, 6 were of unknown origin, and 4 arose from other causes. Three fires presented challenges to communities requiring proactive evacuation of citizens at risk (Deline in June, Fort Smith – Charles Lake fire in June, Edzo in September). Two fire areas were managed under policy guidelines for landscape objectives, Highway 3 north of Fort Providence and the Snowdrift river area.

Measure 4 – Execution of Forest Management Agreements with Aboriginal governments

The development of Forest Management Agreements (FMAs) with Aboriginal governments will support the orderly development of a sustainable forest industry in the north.

The sustainable management of northern forest resources, including the advancement of social, cultural and economic objectives for northern communities, remains a core principle of natural resources management in the NWT.

The GNWT wishes to promote tangible benefits from forests to communities, through economic investment opportunities in the forest industry while maintaining and enhancing environmental stewardship and ecological sustainability of forest resources in the NWT. ENR is pursuing the development and implementation of forest management agreements which reflect northern conditions, northern aspirations and the rights and interests of Aboriginal peoples, and which support sustainable community forest economies for the benefit of community citizens.

Currently no FMAs are in place. ENR targets one FMA to be in place by end of fiscal year 2013/14.

KEY ACTIVITY 5 - WILDLIFE

Description

The Wildlife Division is responsible for the stewardship of wildlife resources. Wildlife initiatives assess and monitor wildlife populations, habitat, species at risk, wildlife health, and biodiversity. Wildlife also coordinates initiatives to address impacts on wildlife from human activity. Functions include developing legislation, strategies, management plans and programs to support the conservation and management of wildlife resources, preparing public information materials on wildlife conservation and management, biodiversity and reducing wildlife/human conflicts, undertaking compliance activities and administering the sport fishery.

Wildlife programs and services are delivered by regional and headquarters wildlife staff. Regional wildlife staff work closely with wildlife co-management boards to co-ordinate wildlife research and monitoring programs. Regional wildlife staff undertake wildlife surveys and involve communities in these activities. Regional and headquarters staff also participate in the development of management plans. Headquarters wildlife staff help co-ordinate and provide expertise to assist regional staff in wildlife research and monitoring programs. Headquarters wildlife staff liaise with national and international wildlife activities and co-ordinate NWT-wide programs, such as biodiversity monitoring, major legislative reviews (e.g. *Wildlife Act*), species at risk programs, wildlife health studies, wildlife best management practices, wildlife cumulative effects studies, wildlife databases, and wildlife study publications. All wildlife and sport fishing compliance programs are delivered by regional renewable resource officers.

Performance Measures

Measure 1 – Documents outlining how Wildlife monitors and manages wildlife and wildlife habitat in the NWT

The release of public documents relating to biodiversity and species at risk conservation, data management, conservation education, public information, and wildlife legislation improves the Department's service delivery and accountability. These documents provide essential information to help maintain the integrity and biological diversity of wildlife and natural ecosystems by encouraging the public stewardship of wildlife resources.

The following documents were completed in 2011-12:

- Sport Fishing Regulations Guide
- Hunting Regulations Summary
- Species at Risk in the NWT 2012 edition booklet
- State of the Environment – 2011 Highlight Report
- NWT Species 2011-2015: General Status Ranks of Wild Species in the NWT
- Annual Report of Wildlife Research Permits (2008 and 2009)
- Two ENR manuscript reports
- 2011-2015 Barren-ground Caribou Management Strategy for the Northwest Territories
- Implementation Plan for the Revised Joint Proposal on Caribou Management Actions in

Wek'eezhii
- Northern land use guidelines: Northwest Territories Seismic Operations
- NWT Species at Risk website (www.nwtspeciesatrisk.ca) launched
- Understanding the *Species at Risk (NWT) Act* booklet

Measure 2 – Wildlife research and monitoring programs (includes workshops or conferences where information about programs is discussed and exchanged)

Ongoing monitoring programs are necessary to establish the status of various species in the NWT (e.g., size, distribution, trend, etc.). This information is used to determine if and what type of management actions are needed to ensure a given population is available for current and future generations (e.g., harvest management actions, etc.).

Research programs address specific program needs and are typically done in collaboration with industry and/or university partners. Research helps us understand the factors that drive the status of a given population and if and how any negative factors can be mitigated (i.e., why a given population may be increasing or decreasing).

Conferences and workshops are a way of bringing partners together to discuss wildlife issues, including new ways of monitoring, how to address given management concerns, and if there is a need for new or additional research and monitoring work. Partners include governments (federal, territorial/provincial, and Aboriginal), academia, and industry.

The following table describes the wildlife surveys completed by regional and headquarters staff from 2009 to March 2012.

Description	2009/10 surveys		2010/11 surveys		2011/12 surveys	
	#	Location	#	Location	#	Location
Barren-ground Caribou						
Calf survival	5	Inuvik, Sahtu, North Slave, South Slave (Cape Bathurst, Bluenose-West, Bluenose-East, Bathurst and Beverly/Ahiak herd)	6	Inuvik, Sahtu, North Slave, South Slave (Tuktoyaktuk Peninsula, Cape Bathurst, Bluenose-West, Bluenose-East, Bathurst and Beverly/Ahiak herd)	6	Inuvik, Sahtu, North Slave, South Slave (Tuktoyaktuk Peninsula, Cape Bathurst, Bluenose-West, Bluenose-East, Bathurst and Beverly/Ahiak herd)
Update population size (calving or post calving ground surveys)	4	Nunavut and Inuvik (Tuktoyaktuk Peninsula, Cape Bathurst, Bluenose-West, Bathurst)	2	Nunavut (Bluenose-East - both calving and post calving ground survey completed to verify methods)	1	Nunavut (Beverly/Ahiak)

Description	2009/10 surveys		2010/11 surveys		2011/12 surveys	
	#	Location	#	Location	#	Location
Assess summer insect abundance and effect on caribou behaviour (July and August 2009)	2	Tundra north of Yellowknife, North Slave	n/a - study completed in 2009			
Determine fall sex ratios	3	Inuvik, North Slave, South Slave, and Nunavut (Bluenose-West, Bathurst and Beverly/Ahiak)	0		2	North Slave, South Slave, and Nunavut (Bathurst and Beverly/Ahiak)
Conduct calving ground distribution survey	2	North Slave and Nunavut (Bathurst and Beverly/Ahiak)	2	North Slave, South Slave (Bathurst and Beverly/Ahiak)	2	North Slave, South Slave (Bathurst and Beverly/Ahiak)
Ongoing monitoring of movements via collars	n/a	Inuvik, Sahtu, North Slave, South Slave (Tuktoyaktuk Peninsula, Cape Bathurst, Bluenose-West, Bluenose-East, Bathurst and Beverly/Ahiak herd)	n/a	Inuvik, Sahtu, North Slave, South Slave (Tuktoyaktuk Peninsula, Cape Bathurst, Bluenose-West, Bluenose-East, Bathurst and Beverly/Ahiak herd)	n/a	Inuvik, Sahtu, North Slave, South Slave (Tuktoyaktuk Peninsula, Cape Bathurst, Bluenose-West, Bluenose-East, Bathurst and Beverly/Ahiak herd)
Ongoing harvest monitoring via checkstations	n/a	Inuvik, North Slave (Porcupine, Bathurst)	n/a	Inuvik, North Slave (Porcupine, Bathurst)	n/a	Inuvik, Sahtu, North Slave, South Slave (Porcupine, Bluenose-West, Bluenose-East, Bathurst and Beverly/Ahiak herd)
Bats						
Monitoring for distribution, White Nose Syndrome, identification of hibernaculum	n/a	South Slave	1	South Slave	1	South Slave
Black Bears						
Carcass collection of nuisance bears - information on condition and growth	n/a	Dehcho	n/a	Dehcho	n/a	Dehcho

Description	2009/10 surveys		2010/11 surveys		2011/12 surveys	
	#	Location	#	Location	#	Location
Dall's Sheep						
Monitor productivity and recruitment	1	Mackenzie Mountains, Sahtu	1	Mackenzie Mountains, Sahtu	1	Mackenzie Mountains, Sahtu
Update population size	0		1	Richardson's Mountains, Inuvik	0	
Ecoregion Mapping						
Conduct surveys to ground truth soils, landform and vegetation for reclassification of five ecozones	1	Southern Arctic - Inuvik, Sahtu, North Slave	1	High Arctic (1st field season) - Inuvik	1	High Arctic (2nd field season) - Inuvik
Furbearers						
Conduct winter track count and monitor trapping success to monitor marten and mink abundance	1	Bliss Lake, North Slave	1	Bliss Lake, North Slave	1	Bliss Lake, North Slave
Conduct a muskrat push-up survey	0		1	Ejié Túé Ndáde Candidate Protected Area, South Slave; Dehcho	0	
Grizzly Bears						
Ongoing harvest monitoring	n/a	Inuvik	n/a	Inuvik	n/a	Inuvik
Electric fence program	n/a	Inuvik	n/a	Inuvik	n/a	Inuvik
Invasive Species						
Baseline monitoring	0		0		1	Dehcho
Moose						
Determine number and productivity of moose	2	Hay River (including Ejié Túé Ndáde Candidate Protected Area), South Slave; Dehcho	3	Dehcho; Gwich'in Settlement Area (GSA) and Inuvialuit Settlement Region (ISR), Inuvik	2	Dehcho, South Slave
Mountain Goat						
Determine number and distribution	0		0		1	Dehcho

Description	2009/10 surveys		2010/11 surveys		2011/12 surveys	
	#	Location	#	Location	#	Location
Muskox						
Determine number and productivity of muskox and assess trend in relation to previous surveys	1	East of Lutsel'ke, North Slave Region	2	Banks and Northwest Victoria Island, Inuvik	1	South Slave
Ongoing monitoring of survival and movements via collars	n/a	Sahtu	n/a	Sahtu	n/a	Sahtu
Northern Leopard Frogs, Chorus Frog, Canadian Toad, Wood Frog						
Studies on densities and prevalence of diseases in amphibian populations on and near the Talston River.	1	South Slave	1	South Slave	1	South Slave
Peary Caribou						
Population survey	1	Northwest Victoria Island, Inuvik	0		0	
Peregrine Falcons						
North American Peregrine Falcon Survey (once every 5 years)	0		2	North Slave, Dehcho, Sahtu, Inuvik	next survey in 2015	
Polar Bears						
Subpopulation updates	0		0		1	Inuvik - pilot aerial survey (Southern Beaufort Sea subpopulation)
Ongoing harvest monitoring	n/a	Inuvik	n/a	Inuvik	n/a	Inuvik
Traditional knowledge study	1	ISR, Inuvik	1	ISR< Inuvik	ISR, Inuvik	Inuvik
Rare species						
Distribution and abundance	0		0		1	Inuvik (for *Braya pilosa*)

Description	2009/10 surveys		2010/11 surveys		2011/12 surveys	
	#	Location	#	Location	#	Location
Small mammals (e.g., mice, voles, and lemmings)						
Conduct live and snap trapping to monitor trend in populations throughout NWT	14	Inuvik, Sahtu, Dehcho, North Slave, South Slave	14	Inuvik, Sahtu, Dehcho, North Slave, South Slave	9	Inuvik, Sahtu, Dehcho, North Slave, South Slave
Snowshoe Hare						
Monitor trend in populations throughout NWT by conducting pellet counts	14	Inuvik, Sahtu, Dehcho, North Slave, South Slave	14	Inuvik, Sahtu, Dehcho, North Slave, South Slave	12	Inuvik, Sahtu, Dehcho, North Slave, South Slave
Waterfowl						
Aerial waterfowl survey as part of ecological assessment	1	Ejié Túé Ndáde Candidate Protected Area, South Slave; Dehcho	0		0	
Wolf						
Monitor productivity at den sites to assess population trend	2	Tundra north of Yellowknife, North Slave	2	Tundra north of Yellowknife, North Slave	2	Tundra north of Yellowknife, North Slave
Wolf population size update	0		0		0 - collars deployed in March 2012	North Slave
Carcass collection to track numbers and distribution	3	North Slave, Inuvik, Dehcho	3	North Slave, Inuvik, Dehcho	5	Inuvik, Sahtu, Dehcho, North Slave, South Slave
Wolverine						
Monitor density of wolverine at Daring Lake, North Slave	1	Tundra north of Yellowknife, North Slave	0	next series of surveys start in April 2011	1	Tundra north of Yellowknife, North Slave
Carcass collection to track numbers and distribution	5	Inuvik, Sahtu, Dehcho, North Slave, South Slave	5	Inuvik, Sahtu, Dehcho, North Slave, South Slave	5	Inuvik, Sahtu, Dehcho, North Slave, South Slave
Wood Bison						
Calf recruitment surveys in Nahanni, Mackenzie and Slave River Lowlands populations	3	Dehcho, North Slave, South Slave	1	Dehcho only; North Slave and South Slave surveys cancelled due to anthrax outbreak	3	Dehcho, North Slave, South Slave

Description	2009/10 surveys		2010/11 surveys		2011/12 surveys	
	#	Location	#	Location	#	Location
Monitor presence of anthrax in Mackenzie and Slave River Lowlands populations	7	North Slave, South Slave	7	North Slave, South Slave	7	North Slave, South Slave
Population surveys (Nahanni, Mackenzie, Slave River Lowlands)	0		0		2	Dehcho, North Slave, South Slave (Nahanni and Mackenzie)
Ongoing monitoring of survival and movements via collars	n/a	Dehcho	n/a	Dehcho	n/a	Dehcho
Bison Control Area	1	South Slave	1	South Slave	1	South Slave
Woodland Caribou						
Calf recruitment surveys	4	Inuvik, Sahtu, Dehcho, South Slave	4	Inuvik, Sahtu, Dehcho, South Slave	2	Sahtu, South Slave
Ongoing monitoring of survival and movements via collars	n/a	Inuvik, Sahtu, Dehcho, South Slave	n/a	Inuvik, Sahtu, Dehcho, South Slave	n/a	Inuvik, Sahtu, Dehcho, South Slave
Conferences and Workshops						
13th International Arctic Ungulate Conference	0		0		1	Yellowknife
Regional wildlife workshops	1	South Slave	1	Dehcho	1	South Slave

<u>Measure 3</u> – Number of samples analyzed for disease

Ongoing disease monitoring is necessary to verify the health of the NWT's wildlife, which provides sustenance for many NWT residents. Ongoing monitoring is also necessary to quickly identify any new diseases (e.g., chronic wasting disease) and to ensure that measures meant to curtail the spread of a given disease are implemented quickly (e.g., anthrax surveillance measures for wood bison).

The following table describes wildlife health studies conducted from 2008 to 2012.

Study	Positives (samples tested) 2008-09	Positives (samples tested) 2009-10	Positives (samples tested) 2010-11	Positives (samples tested) 2011-12
Wildlife & Zoonotic Diseases				
Anthrax Cases (Wood bison)	0 (7 surveillance flights)	0 (7 surveillance flights)	55 (7 surveillance flights)	0 (7 surveillance flights)
Anthrax Serology (past exposure – Wood bison)	n/a	n/a	81 (356)	81 (356)
Avian Influenza & West Nile (Birds)	0 (38 birds)	0 (50 birds)	not detected	not detected
Brucellosis & Tuberculosis in Wood Bison - Mackenzie & Nahanni herds (some tests pending)	0 (60)	0 (399)	0 (36)	TBD
Brucellosis (Caribou)	n/a	5 (227)	n/a	n/a
Caribou Health & Condition Monitoring	94 tested	300 tested	230 tested	100 tested
Chronic Wasting Disease (Caribou)	0 (104)	0 (75)	0 (100)	0 (100)
Giardia (multiple species)	n/a	Detected (100)	n/a	n/a
Hunter Submitted Samples	Various diseases detected (200)	Various diseases detected (100)	Various diseases detected (400)	Various diseases detected (200)
Map (Johne's disease)	n/a	n/a	n/a	34/144
Mosquito borne viruses (animal and zoonotic)	0 (12 weeks of mosquito sampling)	0 (12 weeks of mosquito sampling)	0 (12 weeks of mosquito sampling)	0 (12 weeks of mosquito sampling)
Rabies (canids)	4 (17)	5 (57)	5 (59)	4 (10)
Small mammal – zoonotic diseases	n/a	Various diseases detected (520)	Various diseases detected (520)	TBD
Toxoplasma (caribou)	n/a	5 (227)	n/a	n/a
Trichinella (Bear & Wolves)	77% of wolves +ve	50% of wolves +ve	52% of wolves +ve	
	n/a grizzly bears	73% grizzly bears	73% grizzly bears	
	7% black bears +ve	5% black bears +ve	6% black bears +ve	
	282 tested	140 tested	158 tested	~50 being tested
Wolves (parasite survey)	n/a	n/a	n/a	90 being tested
Contaminants				
Moose	Health Advisory Issued (46)	Health Advisory Issued (46)	Health Advisory Issued (64)	Health Advisory In Place (41)
Caribou	Normal Background Levels (108)	Normal Background Levels (43)	Normal Background Levels (20)	Normal Background Levels (42)

Other Issues

Ongoing services to the public include issuing various wildlife permits and licences, responding to information requests for data, addressing problem wildlife, and providing information, which includes releasing annual guides on sport fishing and hunting regulations, species at risk publications, reports on research and programs, website updates, and giving presentations on wildlife to schools and the public.

Collecting information for management in 2013-14 includes updating and maintaining data management systems (NWT Species Infobase and Wildlife Management Information System), conducting regional surveys to monitor the status and trend of wildlife and wildlife habitat and running the Tundra Ecosystem Research Station at Daring Lake. Wildlife health information is also important for management. In 2013-14, monitoring of wildlife health issues that affect humans and wildlife will continue, including anthrax, rabies, tularemia, bovine tuberculosis and brucellosis, West Nile virus, White-Nose Syndrome, avian influenza, and contaminants.

2. RESPONDING TO PRIORITIES

Members of Legislative Assembly worked collaboratively to jointly develop a shared vision and common goals for the 17th Assembly. The final document, titled *"Believing in our People and Building on the Strength of Northerners"*, also outlined a series of priorities designed to help focus departmental efforts. ENR is undertaking the following activities to help support these priorities.

PRIORITY 1

Building a Strong and Sustainable Future for our Territory

Description

Strengthening our relationships with Aboriginal and other northern governments

Major Program and Service Initiatives Planned for 2013-14

ENR will continue to strengthen relationships with Aboriginal and other northern governments by the following activities:

- Wildlife and Species at Risk Acts
  - Work with members of the Wildlife Act Working Group and Stakeholders Wildlife Act Advisory Group to develop regulations for the new Wildlife Act.
  - Support Species at Risk Committee meetings to develop a five-year species assessment schedule, assess status of three species (barren-ground caribou, Dolphin-Union caribou, northern leopard frog), review status reports for four species (wolverine, Nahanni aster (a plant), western toad, wood bison), and develop status reports for four species (Drummond bluebell, peregrine falcon, grizzly bear, mountain goat)
  - Support Conference of Management Authorities (CMA) meetings to review listing recommendations from the Species at Risk Committee, develop guidelines and templates for management plans and recovery strategies, coordinate actions on species at risk, and continue to implement the NWT Species at Risk Stewardship Program.
  - Complete a bilateral agreement with Canada on implementing species at risk programming in the NWT.

- Water Stewardship Strategy and Action Plan
  - Continue to engage all water partners during the implementation of the Strategy and Action Plan.
  - Continue to work with the Aboriginal Steering Committee as an advisory body and information conduit to respective Aboriginal governments.
  - Work with communities to prepare regional state of the knowledge reports and

vulnerability assessments to identify and prioritize monitoring and research needs.

- Undertake actions in outlined in the 2011-2015 Barren-ground Caribou Management Strategy
  - Ongoing monitoring (population surveys, calf recruitment surveys, and fall sex ratio surveys) of barren-ground caribou herds, including those trans-boundary herds shared with Nunavut, Saskatchewan, Manitoba, and Alaska;
  - Continue to develop and/or implement management plans and/or processes for the Bathurst, Beverly/Ahiak, and Cape Bathurst, Bluenose-East and Bluenose-West herds with Aboriginal governments, co-management boards, Nunavut, Saskatchewan, Manitoba, and Aboriginal Affairs and Northern Development Canada (AANDC).
  - Support capacity-building with Aboriginal governments so they can fully participate in management planning processes.
  - Enhance patrols and compliance activities in the NWT by supporting community-based monitoring programs.
  - Support traditional knowledge studies to provide information for decision-making
  - Complete and implementing inter-jurisdictional agreements with Yukon and Nunavut on caribou monitoring and management actions.

- Implement inter-jurisdictional wildlife agreements on polar bear management and monitoring with Nunavut; and on boreal caribou management and monitoring with Alberta and Yukon.

- Regional Land Use Planning
  - Ensure effective GNWT participation in the implementation of the Sahtu Land Use Plan;
  - Review the revised Gwich'in Land Use Plan; and
  - Continue to work on the development of the Dehcho Land Use Plan.

- Protected Areas and Conservation
  - Conduct a public review of the recommendations report and consultation and engagement period for final establishment and management of Ejié Túé Ndáde (formerly Buffalo Lake, River and Trails).
  - Maintain the Protected Areas Strategy Secretariat and provide support for the implementation of the Protected Areas Strategy.
  - Work with the Tlicho government to decide on next steps for the Yambahti area of interest.

- Sustainable Management of Forest Resources
  - Develop workplans reflecting the signed Gwich'in Forest Management Plan (*A Framework for Forest Management for the Gwich'in Settlement Area*).
  - Executing forest management agreements with First Nations community governments, where interest is expressed, which reflect the framework policy developed in 2012-2013.

- Work with First nations communities to support greater decision-making capacity and forest economy stability in target communities.

- Forest Economies
  - Support First Nations communities in the development of sustainable forest economies through forest inventories, community forest planning, harvest methods and sequencing capacity development, and technical support.
  - Support community based projects for community consumption, such as the Fort McPherson community harvest for community space heating needs to replace fossil fuels.
  - Ensure community objectives of high forest values around biodiversity, wildlife habitat and landscape health, continue to be met.
  - Build community based knowledge and infrastructure about forest industry opportunities and assisting community level plans and aspirations in meeting their local objectives.
  - Build mechanisms where communities ability to realize forest industry development are strengthened through forest management agreements.

- Wildland Fire Management
  - Enhance consultation and engagement on community land and resource management objectives, values-at-risk on community landscapes, and community objectives for community wildland fire activity in traditional areas.
  - Develop a funding proposal for a special purpose fund supporting community wildland hazard and risk mitigation measures.
  - Support hazard and risk mitigation planning with MACA and community governments.
  - Develop fire smart landscape management plans to expand the hazard and risk management area around communities on the northern landscape.

- Forest Policy and legislation
  - Complete of a draft discussion papers on forest policies leading to engagement with First Nations governments on policy objectives.
  - Implement the Incidental Use of Forest licencing protocol under the *Forest Management Regulations*.

- Traditional Knowledge Implementation
  - Continue to identify and monitor TK initiatives as a component of ENR's standard business planning processes and other planning activities.

Description

Negotiating and implementing a devolution final agreement.

Major Program and Service Initiatives Planned for 2013-14

- Information Management
  - ENR's is co-chair of the Property Assets and Contracts Committee (PARCC) sub-committee planning and implementing the Information Management, Systems and Technology aspects of devolution. ENR's Informatics Division is actively participating in planning for the orderly transfer of organizational records between the federal government and the GNWT to ensure program history is preserved to support future planning and operational matters.
- Waste Management
  - Review and assess whether operating sites identified by Canada for transfer to the GNWT meet the conditions established in the Devolution AIP.
  - Continue to review and assess the environmental risks of federal contaminated sites that Canada proposes to transfer to the GNWT.
  - Undertake any further due diligence that the GNWT requires on contaminated sites before the Devolution Agreement comes into effect which could include site visits.
  - Provide analysis and the GNWT criteria for determining if these sites are fully remediated and ready for transfer to the GNWT.
  - Play a key role in the development of the land management system to be used by the GNWT once the Devolution Agreement comes into effect.

- Forest Policy and legislation
  - Complete draft discussion papers on forest policies.
  - Implement the Incidental Use of Forest licensing protocol under the *Forest Management Regulations*.

- Evaluate infrastructure requirements for land and resource management enhancements.

Description

Working with our partners to ensure responsible stewardship through our land and resource management regime.

Major Program and Service Initiatives Planned for 2013-14

- 2011-2015 NWT Barren-ground Caribou Management Strategy
  - Undertake actions in the Strategy so that NWT's herds continue to recover and grow in size. (See list above for details)

- ENR will undertake patrols and work with communities to monitor hunting, outfitting, and sport fishing activities, and running regional winter road check stations to monitor harvest.

- Species at Risk
  - Manage and monitor a number of federally and territorially listed species at risk.
  - Complete and implement wood bison management plans for the Mackenzie, Nahanni, and Slave River Lowlands populations.
  - Continue implementation of the NWT Action Plan for boreal woodland caribou.
  - Develop and implement Actions Plans that enable NWT to meet the recovery objectives identified in the National Recovery Strategies for boreal caribou and Peary caribou (including range management plans).
  - Develop National Recovery Strategies for the northern myotis and little brown myotis (bats).
  - Update the population estimate for Peary caribou on Banks and Northwest Victoria Island.
  - Continue traditional knowledge studies on Peary caribou, Dolphin-Union caribou, and polar bears.
  - Finalize a range management plan for the Southern Beaufort polar bear subpopulation with Environment Canada; continue to develop a five-year polar bear monitoring plan in cooperation with the Inuvialuit and Environment Canada; and continue the four-year process to update the population estimate for the Viscount Melville polar bear subpopulation.
  - Develop territorial management plans or recovery strategies for species newly assessed and listed under the *Species at Risk (NWT) Act* (e.g., polar bear, boreal caribou, Peary caribou, and the plant hairy braya).
  - Develop management plans for species that are of special concern (wolverine and grizzly bears).

- Protected Areas and Conservation
  - Develop a GNWT PAS Governance Protocol, which will define GNWT governance structure, oversight, and accountability with respect to the GNWT's participation in the PAS process.
  - Develop an Ecological Representation Network Plan which would evaluate the progress in and set objectives for ecological representation for the protection of biodiversity.
  - Take a lead role in identifying and sponsoring core representative areas.
  - Provide an ENR perspective on the establishment of the proposed East Arm of Great Slave Lake National Park and the possibility of incorporating Northern Tools in protection.
  - Plan for the first edition of an NWT State of the Protected Areas Report.
  - Develop policy, guidelines and regulations for Conservation Areas under the new *Wildlife Act* and other GNWT protected areas, as appropriate.

- Participate in Land Use Planning
  - Coordinate the GNWT implementation requirements of the SLUP Final Plan, the GLUP revised plan and provide ENR support and input into the interim Dehcho Land Use plan, as required.

- Environmental Assessment
  - Continue to provide ENR comments and coordinate technical expert advice on behalf of the GNWT throughout regulatory reviews and environmental impact assessments, which contribute to effective land and resource management in the NWT.
  - Continue with the development and promotion of best practices which recognize the ecological imperatives of well-managed northern forest landscapes, and management of cumulative effects and the effects of industrial impacts.

- NWT Water Stewardship Strategy and Action Plan.
  - Continue to coordinate the implementation of the Strategy and Action Plan.
  - Work towards negotiating a Bilateral Transboundary Water Management Agreement with Alberta. A final transboundary Agreement is expected in June 2013.
  - Work with British Columbia to negotiate a transboundary water management agreement for the Liard watershed.
  - Continue working on developing an agreement with the federal government on the management of municipal wastewater.
  - Remain active in the Joint Canada-Alberta Implementation Plan for Oil Sands Monitoring and promote NWT-related research and monitoring.
  - Work with NWT communities to prepare regional state of the knowledge reports and vulnerability assessments to identify and prioritize monitoring and research needs.
  - Work with national and international organizations to fund implementation of the Strategy and Action Plan.
  - Continue to provide water quality monitoring equipment and training materials on community-based monitoring activities to NWT communities. The equipment will be deployed and training offered to interested communities during the 2013-2014 ice free season.
  - Continue to develop and implement research partnerships, such as the Wilfrid Laurier-GNWT Contribution Agreement, that can contribute to community-based monitoring and aquatic ecosystem health indicators.
  - Building on community workshops to gather traditional and local knowledge perspectives, ENR will work with the Canadian Water Network and other western science experts to define appropriate aquatic ecosystem health indicators for NWT waters.
  - Work with communities and other GNWT departments (Municipal and Community Affairs, Health and Social Services, and Public Works and Services) on source water protection initiatives.
  - Research and development work is underway related to the management of

municipal wastewater effluent for Canada's Far North under the *Canada-wide Strategy for the Management of Municipal Wastewater Effluent*.

- Information Systems
  - Continue work on the development and implementation of the Wildlife Management Information System (WMIS). WMIS will help improve the timeliness and availability wildlife data and information to support improved reporting, planning and decision support.
  - Pending appropriate approvals during 2012/13, develop the Forest Management Information System (FITS). FITS will be used for a variety of issues essential to the effective management of 80 Million Hectares of forest in the NWT including:
    - Inventories of forest stands, plots and other data that provide the information about the landbase and potential volumes;
    - Sustainability activities which examine the long term sustainability of the forest under different management regimes; and
    - The silviculture history which addresses planning of harvest and subsequent activities related to reforestation and regeneration monitoring.

- Wildland fire management program
  - Implement strategies and recommendations of the wildland fire management program review.
  - Enhance public education and communication on wildland fire management issues, including engagement on priorities and objectives for landscape wildland fire.
  - Enhance the understanding of the ecological role of fire on the northern landscape.
  - Manage wildland fires to support other natural resource management objectives, such as species management strategies for important northern species.

- Forest Resource Assessments
  - Complete forest resource inventories supporting community forest economy opportunities supporting the biomass strategy.
  - Update forest resource assessments for the western Tlicho region, and the Buffalo River Slave River Lowlands region.
  - Assess attributes of the natural ecology and biodiversity of northern landscapes to better inform the decisions on wildlife and forest management interactions.

- Forest Renewal
  - Develop policy objectives on forest renewal from natural disturbance events, industrial impacts and forest economy initiatives, basing the objectives on the forest renewal strategy.

- Forest Science
  - Advance the principles of ecosystem-based management in a coordinated effort between forest management division, wildlife division, and land and water division.

- Continue collaborative research on wildland fire/wildlife interactions, applied research in fire science at the research site near Fort Providence, and support collaboration with education institutions such as Waterloo Lutheran University.
- Monitor forest pest occurrence in northern forests and imminent risks of pest infestations form elsewhere.

- Forest Planning
  - Provide expertise in the sequencing of forest harvests supporting sustainable management of forest resources supporting community forest economies.
  - Ensure forest renewal objectives are accounted for in development projects, and a healthy forest landscape and highest levels of biodiversity are maintained.

- Cumulative Effects
  - Participate in cumulative effects assessment projects determining the life-cycle of industrial impacts on the forest resource, and severity assessments of and recovery timelines after wildland fire effects.
  - Assess the recovery post-burn of forest landscapes affected by wildland fire, supporting critical resource decisions for wildlife management.

- Greenhouse Gas Strategy
  - Continue to implement the NWT Greenhouse Gas Strategy in coordination with the NWT Energy Plan.
  - Track and report on total NWT greenhouse gas emissions.
  - Prepare annual inventories of GNWT emissions from government operations for reporting to The Climate Registry.

- Energy Efficiency and Conservation Programs
  - Support for the Arctic Energy Alliance (AEA), Energy Efficiency Incentive Program, Energy Conservation Program, Alternative Energy Technology Program, Commercial Energy Conservation and Efficiency Program, Regional Energy Advisors, community energy planning, and public education and awareness will continue to be a focus.
  - Target and promote actions that reduce the use of imported fossil fuels, greenhouse gas emissions and the cost of living for NWT residents.

  - Coordinate activities with the GNWT Interdepartmental Energy Coordinating Committee to work with Inuvik and Norman Wells to help identify energy solutions to problems caused by the declining supplies of natural gas. ENR's specific role will focus on energy efficiency measures for residents and small businesses and identifying alternative energy sources to meet both short term and longer term needs.

- NWT Biomass Energy Strategy
  - A revised Strategy was released in 2012-13. Depending on community interest and feasibility assessments, projects in 2013/14 will include improving the supply of firewood, developing wood pellet or wood chip production and supply,

increased use of biomass in community district heating systems and combined heat and power generation.

- Alternative Energy Technologies Program
  - Continue to fund solar photovoltaic power installations in communities and remote camp locations.
  - Work with the power utilities to implement larger scale solar-diesel hybrid systems in NWT communities for the purpose of offsetting diesel.
  - A Solar Energy Strategy was prepared in 2012-13 to describe and coordinate these initiatives.
  -
- Climate Change Adaptation
  - Finalize the Climate Change Adaptation Framework by spring 2013. The Framework will establish mechanisms to provide information and support to decision-makers at all levels to mainstream adaptation, incorporate climate change considerations into their actions.
  - Collaborate with Nunavut and the Yukon on implementing the Pan-Territorial Adaptation Strategy, and working with Natural Resources Canada (NRCan) and Aboriginal Affairs and Northern Development Canada (AANDC) to fund and coordinate adaptation projects.
  - Work with GNWT departments and other levels of government to mainstream adaptation, and working with scientists to understand climate change impacts to support adaptation decision making.
  - Develop a climate change adaptation toolbox for forest landscapes.
  - Identify adaptation strategies consistent with national commitments.

- Waste Site Remediation (Giant)
  - Continue to participate on the Project Management Committee and the Oversight Committee to guide and manage the planning, execution, monitoring and control activities of the Project.
  - Coordinate the development of the Environmental Management System and Environmental Management Plans with Canada and parties to the Environmental Assessment.

- Waste Reduction and Recovery and Solid Waste Management
  - Finalize the review of the Beverage Container Program so as to make it more effective, efficient, accountable and self-sustaining;
  - Develop an electronic waste (e-waste) management framework
  - Develop a Waste Management Strategy (Strategy) for the NWT. The Strategy will provide a long-term vision including goals and objectives for solid waste management and waste diversion. ENR will work with the Department of Municipal and Community Affairs and municipalities on the development of this Strategy.

- Science Agenda Implementation
  - Develop a new terms of reference for the Interdepartmental Science Committee.
  - Develop a new working group with representatives of the three territories and the federal ADM Arctic Science and Technology working group.
  - Collaborate with ECE on development and publishing of best practices and standards for community consultation on science projects.
  - Expand research partnerships with Canadian Universities; and evaluating the research licensing and permitting processes across the NWT.
  - Work with NWT community groups, Aboriginal governments and organizations, environmental non-government organizations, and federal agencies to develop a comprehensive NWT Science Agenda. The feasibility of a pan-territorial science agenda will be examined in collaboration with Yukon and Nunavut Science Advisors.

- Ongoing enforcement of Environmental Protection Legislation (Statutory obligation)

PRIORITY 3

Strengthen and Diversify our Economy

Description

Making strategic infrastructure investments such as: the Inuvik-Tuktoyaktuk Highway

Major Program and Service Initiatives Planned for 2013-14

- Environmental Assessment
  - Work to ensure that the proponents conduct the appropriate mitigation, monitoring and follow-up for the construction and operation of the Inuvik to Tuktoyaktuk Highway.
  - Establish an internal GNWT plan of action and/or an internal Memorandum of Understanding for GNWT involvement in the environmental impact assessment for the Mackenzie Valley Highway to ensure the assessment is coordinated and conducted in the most efficient manner possible. A plan of action for the Mackenzie Valley Highway environmental impact assessment would help to identify resource needs and ensure that the needs of GNWT departments and mandates are met.

- Wildlife Monitoring Mitigation and Adaptive Management
  - Continue to monitor and manage the cumulative effects of natural and human-caused changes on woodland boreal caribou, barren-ground caribou, grizzly bears, and other wildlife species.

- Implement a joint Wildlife Effects Monitoring Program (WEMP) with the Department of Transportation to assess and mitigate the impacts of the Inuvik to Tuktoyaktuk Road on grizzly bears, wolverines, raptors, and barren-ground caribou.
- Work with industry and co-management partners to develop a regionally based WEMP to assess and mitigate the impacts of oil and gas development in the Sahtu region on wildlife and wildlife habitat (boreal caribou, moose, and furbearers).
- Work with the Department of Transportation to develop a trans-regional WEMP to assess and mitigate the impacts of the proposed Mackenzie Valley Highway on wildlife and wildlife habitat in the Inuvik, Sahtu, and Dehcho regions (boreal caribou, moose, grizzly bears, and furbearers).
- Hold workshops with the diamond mines, monitoring agencies, Nunavut and affected Aboriginal governments to assess, and if necessary, modify the regionally based programs that assess and mitigate the impacts of mines on wildlife (wolves, wolverines, grizzly bears, and barren-ground caribou).
- Monitor and mitigate the negative effects of fire, the Biomass Strategy, and increased access on wildlife and wildlife habitat (boreal caribou, barren-ground caribou, and moose).

- Classifying and Mapping Ecosystems
  - Complete and release to the public, the report detailing the reclassification of the High Arctic Islands. This classification system describes the landforms, soils, and vegetation in various regions of the NWT and is critical for providing baseline information for environmental and cumulative effects assessments related to economic development.

Description

Making strategic infrastructure investments such as: Mackenzie Valley Fiberoptic Link

Major Program and Service Initiatives Planned for 2013-14

- Environmental Assessment
  - Coordinate and participate in environmental assessment and regulatory processes related to infrastructure investments.
- Wildlife Monitoring Mitigation and Adaptive Management (see list above)

Description

Making strategic infrastructure investments such as: Hydro Initiatives

Major Program and Service Initiatives Planned for 2013-14

- Alternative Energy Program (biomass, solar)
  - Continue to fund solar photovoltaic power installations in communities
- Biomass Energy Strategy
  - Work with communities to identify projects, develop project proposals and initiate projects that address actions in the Strategy.
- Work with Inuvik and Norman Wells to promote energy efficiency and conservation and assist these communities with identifying opportunities for renewable energy sources
- Promote and ensure the incorporation of GNWT strategies and initiatives throughout regulatory reviews and environmental impact assessments. This includes Hydro Initiatives.
- Environmental Assessment
  - Coordinate and participate in environmental assessment and regulatory processes related to infrastructure investments.

Description

Supporting the Mackenzie Gas Pipeline project

Major Program and Service Initiatives Planned for 2013-14

- Environmental Assessment
  - If the Mackenzie Gas Project proponents decide to go ahead with construction of the pipeline the Environmental Assessment and Monitoring Unit will be responsible for coordinating ENR comments and guidance during the regulatory permitting process with consideration of other GNWT departmental interests. An announcement from the proponents on whether they will be going forward with construction of the pipeline is expected during December of 2013.
  - Prepare for the increase in proponent regulatory applications that will be received for review and comment.
  - Identify and track GNWT action on commitments made during the Environmental Impact Review and the Governments' response to the JRP report.

- Gathering Baseline information
  - Continue to collect baseline information on wildlife under the Western Northwest Territories Biophysical Study. This information will be used to assess and mitigate the impacts of the future pipeline on forests, wildlife and wildlife habitat. This includes monitoring the status and trend of boreal caribou, moose, grizzly bears, and bison in the Mackenzie Valley.

Description

Developing a socially responsible and environmentally sustainable economic development and mining strategy.

Major Program and Service Initiatives Planned for 2013-14

- Protected Areas and Conservation
  - Complete the review of the PAS Non-renewable Resource Assessment Guidelines to ensure the guidelines are appropriate and useful for anticipated needs for GNWT sponsored areas and post-devolution.
  - Facilitate communities to explore and build linkages between protected areas and NWT Tourism initiatives, as appropriate, especially in the area of the Aboriginal Tourism Strategy.

- Best Practices
  - Work with industry partners and the Government of Canada to develop a best management practices guideline for mining companies in the NWT.

- Abandonment and restoration planning
  - Work with industry, management boards and Government of Canada to ensure appropriate abandonment and restoration practices are in place to protect future generations from liabilities and environmental impacts from development.

Description

Supporting the traditional economy

Major Program and Service Initiatives Planned for 2013-14

- Protected Areas and Conservation
  - Continue to support communities to protect their special natural and cultural areas proposed through the PAS which are important to their continued traditional activities and on-the-land recreation.
  - Provide support to communities in their request for aboriginal tourism activities within proposed and established protected areas.

- Undertake actions in outlined in the 2011-2015 Barren-ground Caribou Management Strategy (see previous list above)
  - Actions are intended to recover and grow NWT's barren-ground caribou herds so that traditional harvesting activities can continue for current and future generations.

- Continue to administer the fur program on behalf of ITI.

- ENR considers traditional economy throughout regulatory reviews and coordination of environmental impact assessments.

Description

Improving our regulatory processes

Major Program and Service Initiatives Planned for 2013-14

- Protected Areas and Conservation
  - Ensure that regulations and management plans for established protected areas are consistent and compatible with current regulatory processes and do not add unnecessary duplication or complexity.

- Regional Land Use Planning
  - Create guidance documents for GNWT authorizations that are subject to approved land use plans.
  -
- Environmental Assessment
  - Ensure ENR and GNWT coordination and input into Sahtu Oil and Gas exploration and development.
  - Focus on improving internal ENR and GNWT regulatory review and environmental impact assessment processes through protocol development.
  - Explore and promote the use of regional studies.

- Wildlife Act
  - Work with partners on the development of regulations and policies to implement the new Act, officer training, and development of public information materials to help the public understand the new Act.

- Forest Policy and legislation
  - Complete of a draft discussion papers on forest policies
  - Implement the Incidental Use of Forest licencing protocol under the *Forest Management Regulations.*

- Forest Management Agreements
  - Executing forest management agreements with First Nations community governments, where interest is expressed, which reflect the framework policy developed in 2012-2013.

PRIORITY 4

Address Housing Needs

Description

Putting higher density housing units in small communities

Major Program and Service Initiatives Planned for 2013-14

- Energy Efficiency and Conservation
  - Promote actions and housing design that reduce the use of imported fossil fuels
  - Continue to support the Arctic Energy Alliance and the programs they deliver to promote public awareness and education

- Alternative Energy Program
  - Promote the use of geothermal, biomass, solar and wind options

3. RESOURCE SUMMARY

DEPARTMENTAL SUMMARY

ENVIRONMENT AND NATURAL RESOURCES

2013-2014

(thousands of dollars)

	Proposed 2013-14 Main Estimates	2012-13 Revised Estimates	2012-2013 Main Estimates	2011-12 Actuals
Operations Expense				
Corporate Management	10,981	11,171	11,171	11,636
Environment	7,137	7,636	5,936	8,524
Forest Management	31,965	28,634	28,634	32,021
Wildlife	15,138	15,125	15,125	15,030
Land and Water	5,027	4,827	4,827	4,831
Total Operations Expense	**70,248**	**67,393**	**65,693**	**72,042**
Revenues	**1,570**	**1,570**	**1,570**	**2,137**

HUMAN RESOURCE SUMMARY

	Proposed 2013-14	2012-13	2011-12	2010-11
Total Number of Positions	309	303	303	299

Appendix I – Financial Information

Operations Expense Summary

	2012-13 Main Estimates	PROPOSED ADJUSTMENTS					2013-14 Business Plans
		FG Collective Bargaining NA	Forced Growth	New Initiatives	Sunsets and Other Approved Adjustments	Internal Reallocation of Resources	
Corporate Management							
Directorate	**2,153**	0	0	0	0	0	**2,153**
Policy and Strategic Planning	**1,325**	0	0	0	0	0	**1,325**
Field Support	**1,368**	0	0	0	0	0	**1,368**
Corporate Costs	**2,911**	0	0	0	0	0	**2,911**
Shared Services	**3,197**	0	0	0	(105)	0	**3,092**
Amortization	**217**	0	0	0	(85)	0	**132**
Total Corporate Management	**11,171**	0	0	0	(190)	0	**10,981**
Environment							
Program Management	**670**	0	200	0	85	0	**955**
Environmental Protection	**1,647**	0	165	0	0	0	**1,812**
Waste Reduction & Management	**100**						**100**
Climate Change	**3,513**	0	0	1,700	(950)	0	**4,263**
Amortization	**6**	0	0	0	1	0	**7**
Total Environment	**5,936**	0	**365**	**1,700**	(864)	0	**7,137**
Forest Management							
Program Management	**4,453**	0	0	0	0	0	**4,453**
Pre-Suppression	**14,991**	0	948	0	0	0	**15,939**
Suppression	**4,540**	0	2,490	0	0	0	**7,030**
Forest Resources	**2,862**	0	0	0	0	0	**2,862**
Amortization	**1,788**	0	0	0	(107)	0	**1,681**
Total Forest Management	**28,634**	**0**	**3,438**	0	(107)	0	**31,965**
Wildlife							
Wildlife Management	**575**	0	0	0	0	0	**575**
Wildlife Support	**2,560**	0	0	0	0	0	**2,560**
Technical Support	**6,025**	0	0	0	0	0	**6,025**
Field Operations	**5,590**	0	0	0	0	0	**5,590**
Amortization	**375**	0	0	0	13	0	**388**
Total Wildlife	**15,125**	0	0	0	**13**	0	**15,138**
Land and Water							
Land and Water	**3,934**	0	0	0	200	0	**4,134**
Environmental Assessment & Monitoring	**893**	0	0	0	0	0	**893**
Total Land and Water	**4,827**	0	0	0	**200**	0	**5,027**
TOTAL DEPARTMENT	**65,693**	0	**3,803**	**1,700**	(948)	0	**70,248**

Explanation of Proposed Adjustments to Operations Expense

Key Activity / Task	Explanation of Proposed Adjustment	FG Collective Bargaining NA	Forced Growth	New Initiatives	Sunsets and Other Approved Adjustments	Internal Reallocation of Resources
Corporate Management						
Shared Services	Implementation of Financial Shared Services in the Beaufort-Delta	-	-	-	(105)	-
Amortization		-	-	-	(85)	-
	Total for Corporate Management	-	-	-	(190)	-
Environment						
Program Management	Science Agenda	-	-	-	85	-
	Environmental Baseline in the Sahtu	-	200	-	-	-
Environmental Protection	Environmental Protection Officer	-	165	-	-	-
Climate Change	Delivery of Greenhouse Gas Strategy	-	-	-	(200)	-
	Biomass Energy Strategy	-	-	-	(100)	-
	Short-term Biomass Options for Inuvik	-	-	-	(100)	-
	Energy Efficiency Incentive Program	-	-	-	(150)	-
	Commercial Energy Conservation and Efficiency Program	-	-	-	(200)	-
	Regional Energy Advisors O&M	-	-	-	(200)	-
	Alternative Energy Programs	-	-	1,700		-
Amortization		-	-	-	1	-
	Total for Environment	-	365	1,700	(864)	-
Forest Management						
Pre-Supression	Contract cost increases for forest fire management crews	-	66	-	-	-
	Increase in Aviation Fuel Costs	-	482	-	-	-
	Training for Firefighters and Incident Management Teams and Increase Fire Crew Levels	-	400	-	-	-
Suppression	Shortfall in Fire Suppression Task	-	2,490	-	-	-
Amortization		-	-	-	(107)	-
	Total for Forest Management	-	3,438	-	(107)	-
Wildlife						
Field Operations	Renew able Resource Officer II - Fort Good Hope (Contribution funding to C&B)	-	-	-	-	-
Amortization		-	-	-	13	-
	Total for Wildlife	-	-	-	13	-
Land and Water						
Land and Water	Water Stew ardship Strategy	-	-	-	200	-
	Total for Land and Water	-	-	-	200	-
TOTAL PROPOSED ADJUSTMENTS		-	3,803	1,700	(948)	-

Major Revenue Changes: 2012-13 Main Estimates to 2013-14 Business Plan

(thousands of dollars)

Revenue Item	2012-13 Main Estimates	2013-14 Business Plans
No changes to Revenue	1,570	1,570

Proposed Adjustments to Grants and Contributions: 2012-13 Main Estimates to 2012-14 Business Plan

(thousands of dollars)

Key Activity	Explanation of Proposed Adjustment	2012-13 Main Estimates	Forced Growth	New Initiatives	Sunsets and Other Approved Adjustments	Internal Re-allocation	2013-14 Business Plan
Environment							
Arctic Energy Alliance	Energy Efficiency Incentive Program sunset	350			(150)		200
	Regional Energy Advisors sunset	200			(200)		0
	Arctic Energy Alliance Contributions - remainder no change	1,248					1,248
Energy Conservation	Commercial Energy Conservation and Efficiency Program sunset	200			(200)		-
Biomass Energy	Sunset	100			(100)		-
Total for Environment		2,098	-	-	(650)	-	1,448
Land and Water							
NWT Water Strategy	Reinstatement of 12-13 reduction				200		200
Total for Land and Water		-	-	-	**200**	-	**200**
Wildlife							
Renewable Resource Officer II - Fort Good Hope	Transfer from Contributions to Compensation and Benefits				(120)		(120)
Total for Land and Water		-	-	-	(120)	-	(120)
TOTAL PROPOSED ADJUSTMENTS		**2,098**	-	-	**(570)**	-	**1,528**

Appendix II – Human Resources Reconciliation

Position Changes: 2012-13 Main Estimates to 2013-14 Business Plan

	Number of Positions	Location	Total
2012-2013 Main Estimates	303		303
Reductions:			
Forced Growth:			
NEW Environmental Protection Officer	1	Norman Wells	1
Internal Reallocation:			
53-11302 Pipeline Environmental Officer	(1)	Headquarters	(1)
NEW Environmental Assessment Analyst	1	Headquarters	1
NEW Renewable Resources Officer II	1	Fort Good Hope	1
New Positions:			
Devolution Coordinator*	1	Headquarters	1
Contaminated Sites Specialist*	1	Headquarters	1
Business Systems Analyst*	1	Headquarters	1
Senior Project Manager - IT*	1	Headquarters	1
Total Proposed Positions 2013-14 Business Plan	309		309
Increase (Decrease)	6		6

* Funding for devolution positions is in Department of Executive budget

Appendix III – Infrastructure Investments

Infrastructure investments planned for 2013-2014:

Fire Tower – Camera Detection System
A high-resolution observation camera, with the capacity for outdoor use in a harsh environment, and network analysis and control capacity is to be installed at a Regional office. Emerging technology in remote observation cameras has been harnessed to provide an alternative to resident staff on a lookout tower site, while retaining the benefits of the fixed detection option. This forward-looking cost-effective method has been tested in southern jurisdictions, and has been tested successfully in northern conditions.

Repeater Towers – Upgrades to the Radio Communications Network Infrastructure
ENR completed a radio-telecommunications network audit in 2011 and 2012. The audit recommends upgrading tower infrastructure to ensure personnel safety and network integrity. A scheduled replacement of communications facility infrastructure in the Regions (ENR) of South Slave, North Slave, Dehcho, Sahtu and Inuvik is planned.

Lightning Location System
ENR maintains a network of nine lightning sensors located across the NWT. The Lightning Location System provides real-time information on lightning in the NWT and is a key part of ENR's ability to respond to wildfire events. No other system is available to northern forest managers to provide this information. Regular replacement of sensors is required to maintain the current capacity of the GNWT Lightning Location System.

Wildlife Management Information System (WMIS)
WMIS is a highly valued secure data store. During 2010/11 an assessment revealed that WMIS is not achieving its intended objectives, or meeting the business requirements as identified by stakeholders. Custom development is required to provide a supportable, integrated and flexible system to store, document, extend and access data necessary to make and substantiate wildlife management decisions.

Fire Radio Communications Networks Upgrades – As and Where
There is a need to maintain the current capacity of the GNWT ENR radio repeater network. While the technology and systems are reasonably secure, as with any technology, system failures demand replacement equipment and backup systems, and as technologies stagnate, new equipment is required to maintain the effectiveness of the system. Radio repeater technology has a lifespan of approximately ten to fifteen years. To ensure this capacity, regular replacement of network modules (region-wide components) is warranted.

Fort Simpson – Patrol Boat
It is important that ENR maintains the ability for staff to monitor and patrol areas in carrying out the mandate of the Department. Current watercraft are no longer functional in supporting ENR's ability to perform the required duties especially related to Wildlife Management. The purchase of a patrol boat 22' in length, with a 150HP motor capable of transporting a minimum of three

people and 600 lbs. of gear with the ability to travel approximately 300 km on a single 80 gallon tank of gas is planned.

Fort Simpson Air Tanker Base - Dispatch/Standby Facility
There is a need to provide safe and effective work environments on air tanker bases, supporting the Department's air tanker program. The current environment does not meet current codes and standards for such facilities. The services cannot be secured off-site without a detrimental impact to the operations. Upgrades of the electrical services, building envelope upgrades, and code standard ventilation to the air tanker base dispatch/standby facility are required.

Fire Tower - Fort Liard Lookout Tower – Cabin
The Department maintains cabins at fire towers and lookouts located at different locations across the NWT. The current facility at Fort Liard Lookout Tower has been an important piece of infrastructure that ensures a tower person is available on-site to report a forest fire. The current facility is no longer suitable due to its deteriorated condition. The proposal calls for a facility that is 61m^2, consisting of space for a kitchen, bedroom, living area and office.

Hay River – Air Tanker Base Dispatch/Standby Facility Upgrades
There is a need to provide safe and effective work environments on air tanker bases, supporting the Department's air tanker program. The current environment does not meet current codes and standards for such facilities. The services cannot be secured off-site without a detrimental impact to the operations. Upgrades of the electrical services, building envelope upgrades, and code standard ventilation to the air tanker base workshop are required.

Fort Smith – Air Tanker Base Workshop Upgrades
There is a need to provide safe and effective work environments on air tanker bases, supporting the Department's air tanker program. The current environment does not meet current codes and standards for such facilities. The services cannot be secured off-site without a detrimental impact to the operations. Upgrades of the electrical services, building envelope upgrades, and code standard ventilation to the air tanker base workshop are required.

Replace Air Quality Monitoring Stations (Trailers only)
The Department maintains a network of four air quality monitoring stations located in Fort Liard, Yellowknife, Norman Wells and Inuvik. This network supports real-time web based reporting of levels of air pollutants through operation of ambient air quality analyzers that measure common air pollutants including fine particulate dust and wood smoke), sulphur dioxide, ozone, nitrogen gases hydrogen sulphide and carbon monoxide. The analyzers are located inside secured trailers maintained at a constant temperature and humidity. Upgrades of the units to extend their useful life and enhance technical capacity are planned.

Yellowknife Regional Office – Betterment
The North Slave regional office in Yellowknife requires upgrades to the envelope and interior. Work has progressed on the stabilization of the foundation works. Assessments indicate that work is required to bring the building up to current standards, and good building practices, addressing building efficiency and employee health and safety. With these upgrades the

building's useable lifespan will be extended. Siding, lights, insulation and windows would be addressed in the upgrade.

Enterprise –Install a new Forest Fire Lookout Tower

Install a new 30-metre fixed detection tower near Enterprise. Engineering, design and geotechnical requirements have been completed. A fixed detection site near Enterprise has been determined as a suitable replacement for the former Hart Tower lookout site, and for the Cameron Tower lookout. The new site will observe the Enterprise/Hay River corridor, a high-valued area, and an area with significant fire risk.